Introduction

The National Institute of Standards and Technology (NIST) and the Office of Standards Services in Technology Services conducted this Symposium on Standards in a Global Economy as a celebration of the long-standing partnership of industry, standards developing organizations, government agencies, and NIST. We spent the last 100 years working on it (!) with the hope that the participants would enjoy it as much as we enjoyed planning it. NIST has considered itself very lucky over the years to have had the best partners that any organization could want. This Centennial Symposium highlighted that incredibly positive relationship.

Through this unique partnership we have developed together, standards that have met, and will continue to meet, needs for sound and innovative technology and for protection of health, safety, and the environment. The developmental systems that have evolved through these partnerships have met both national needs and global needs. These standards are driven by need, not mandate, and are created by industry, experts, academics, government representatives, consumers, and others. The voluntary standards they produce are frequently embedded in national, state, and local laws and regulations, as well as in products and services used around the world. Interest in the unique U.S. system was evidenced by the attendees at this Symposium from around the world, including 20 professional experts from the telecommunications industry in Russia and the Newly Independent States.

This Symposium was designed to provide examples of past successes in standards, timely discussions of trends, and identification of future needs in a variety of important technological and policy areas. Participants included leaders in the global policy and standards arena, with representatives of the American National Standards Institute (ANSI), the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the American Society of Mechanical Engineers (ASME), the American Society for Testing of Materials (ASTM), and the National Fire Protection Association (NFPA). Key representatives of industry and government also presented their perspectives on standards.

Central to all the presentations was the concept of partnership. All speakers agreed that standards are effective only when they are developed by those who will use them; when the process is open, flexible, and meets the needs of the users. In the United States, government has not driven the process, but rather has served as an active participant and willing beneficiary. We have challenged standards developers to create an environment in which all interested parties can come together to use sound research and technology as the foundation for standards in a wide variety of technologies.

Since its beginning, the U.S. standards system has been rooted in flexibility. Symposium speakers discussed various processes for developing standards, including the formal standards process, the fast-moving consortium approach, hybrid partnership projects, and pre-standardization research. These options allow standards to be created to meet the differing needs of different sectors. Concerns about speed and timeliness may drive one process; concerns about health, safety and protection drive another approach; and concerns about accuracy and reliability drive still another. Yet, these approaches borrow from one another in a fluid fashion depending on the demands of a particular sector or interest group. The resulting standards must also meet the test of a business case: Will they satisfy purposes for which they were designed? If so, they will be used; if not, time and money will have been wasted to produce documents that sit, untouched, on shelves.

Against the backdrop of partnership, the Symposium covered an amazing breadth and depth in current and past technical activities in standards. These activities were organized along sectoral lines since that is the way that we in the United States approach standards. Speakers from industry, standards developing organizations, and NIST discussed standards, achievements, and the future in a variety of areas. These included telecommunications, information technology, semi-conductors, optical technology, transportation, materials, manufacturing, building and construction, and fire safety. They stressed the importance of a strong foundation in measurements and research, as well as the need to forge a partnership among researchers, industry, government, and other affected parties to create standards that will be used. In addition, many of the presentations attempted to quantify the benefits realized from standards in terms of reduced cost of testing, increased interoperability for components in a supply chain, and increased safety with decreased loss of life.

The technical presentations were followed by a panel discussion on the U.S. National Standards Strategy, which was developed by ANSI in collaboration with many organizations present at the Symposium. The National Standards Strategy provides a framework for U.S. interests to improve U.S. competitiveness globally, while continuing to provide strong support for domestic markets. It builds on the traditional strengths of the U.S. approach to standards with its focus on industry sectors. The Strategy sets forth challenges as the U.S. standards community works to ensure that the United States continues to play a major role in standards issues worldwide. Under the ANSI umbrella the Strategy was created by industry, standards developing organizations, and government agencies working closely together. This continuing partnership will make the goals of the strategy a reality.

The Symposium closed with an historical perspective that reminded attendees that standards enable us to specify the function, performance, and reliability of a product or system. With this underpinning, science, technology, innovation, and human satisfaction will go forward to meet global needs in all sectors.

Belinda L. Collins
Deputy Director, Technology Services
National Institute of Standards and Technology